

WHAT IS CLAIMED IS:

1. A belt assembly comprising:

a belt having a longitudinal axis and a plurality of wires extending along the longitudinal axis;

a plurality of teeth extending transversely to the wires; and

inserts disposed in the teeth, the wires guided through a portion of the inserts or bonded to the inserts such that the teeth exhibit improved shear strength and the wires run in a linear path.

2. The assembly according to claim 1, wherein the belt is an endless belt with the teeth on a first side of the belt.

3. The assembly of claim 2, wherein the belt has a second or back side that is flat.

4. The assembly of claim 2, further comprising a plurality of teeth on the second side of the belt.

5. The assembly of claim 1, wherein the wires are made of metal.

6. The assembly of claim 5, wherein the wires are made of steel.

7. The assembly of claim 1, wherein the inserts include metal.

8. The assembly of claim 7, wherein the metal includes steel.

9. The assembly of claim 8, wherein the inserts are made of metal.

10. The assembly of claim 9, wherein the wires are bonded to the inserts and the wires and the inserts are bonded by metal-to-metal bonding.

11. The assembly of claim 10, wherein the metal-to-metal bonding is achieved by inductive welding, ultrasonic welding, or chemical bonding the wires and the inserts together.

12. The assembly of claim 11, wherein the bond between the wires and the inserts results in a friction-locked bond between the wire and belt.

13. The assembly of claim 7, wherein the inserts are covered by polymer.

14. The assembly of claim 13, whereby the polymer is polyurethane.

15. The assembly of claim 1, wherein the belt is made from polyurethane.

16. The assembly of claim 1, wherein the shape of the insert is substantially the same as the shape of the tooth.

17. A belt assembly, comprising:

a polymeric belt having a longitudinal axis, a first side and a second side;

a plurality of teeth on the first side;

a plurality of longitudinally extending wires embedded in the belt; and

inserts embedded in the teeth and the wires running through the inserts or bonded to the inserts to prevent relative movement between the wires and the teeth.

18. The assembly of claim 18, wherein the inserts and wires are made of metal.

19. The assembly of claim 19, wherein the bonding between the inserts and teeth is metal-to-metal.

20. A belt assembly comprising:

a belt having a longitudinal axis, a plurality of metal wires extending along the longitudinal axis embedded in the belt;

a plurality teeth formed on a driving surface of the belt; and

metal inserts embedded in the plurality of teeth, the wires running through or bonded to the inserts in a linear path so that when the belt is under tension, the tension is substantially equal on each of the wires and the teeth do not move relative to the wires.

21. The assembly of claim 20, wherein the bonding is between the inserts and the wires is metal-to-metal.